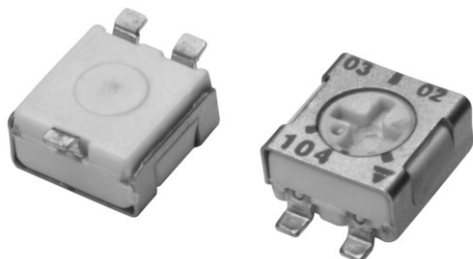


Surface Mount Miniature Trimmers Single-Turn Cermet Sealed



FEATURES

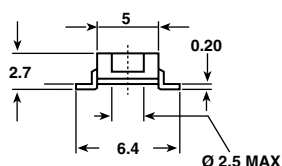
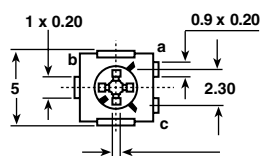
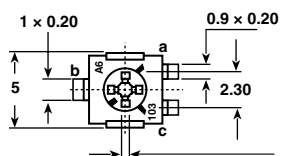
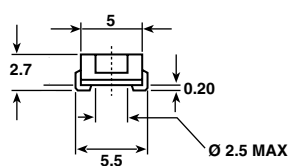
- 0.25 W at 70 °C
- For PCB version see T53Y series
- Wide ohmic range (10 Ω to 1 M Ω)
- Small size for optimum packing density
- Suitable for both manual or automatic operation



The TS53 trimming potentiometer has been designed for surface mount applications and offers volumetric efficiency (5 x 5 x 2.7 mm) with high performance and stability.

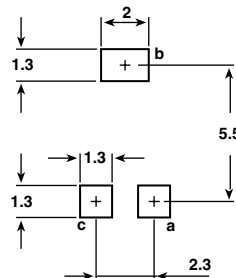
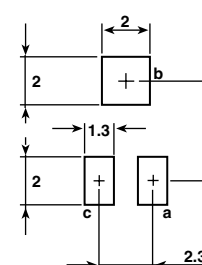
The TS53 design is suitable for both manual or automatic operation, and can withstand wave, and reflow soldering techniques.

DIMENSIONS in millimeters

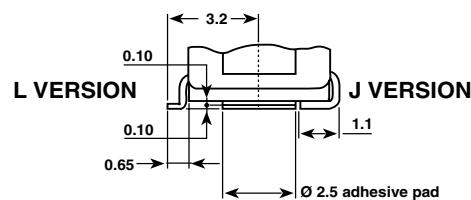
TS53YL

TS53J


cruciform screwdriver slot
 $\varnothing$ 2.5, width 0.5
 deep: 0.55
 max deep (center): 0.7

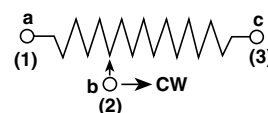
RECOMMENDED SOLDERING AREAS

TS53YL

TS53YJ


ADHESIVE PAD (detail)



CIRCUIT DIAGRAM



Tolerances unless otherwise specified $\pm$ 0.25 mm

Surface Mount Miniature Trimmers
Single-Turn Cermet Sealed

Vishay Sfernice

ELECTRICAL SPECIFICATIONS

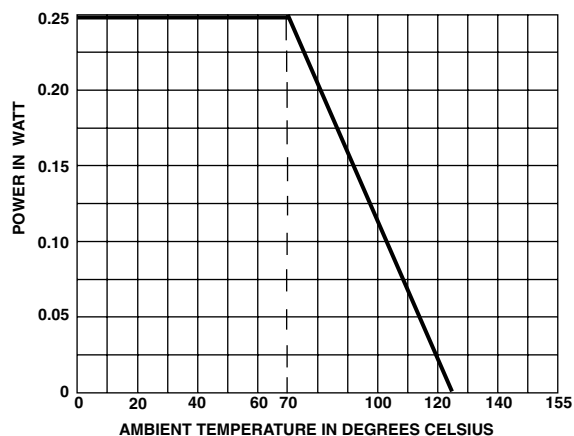
Resistive Element	Cermet
Electrical Travel	220° ± 15°
Resistance Range	10 Ω to 1 MΩ
Standard Series	1 - 2 - 5
Tolerance Standard	± 20 %
Power Rating	Linear
	Logarithmic
	0.25 W at 70 °C
	not applicable
Temperature Coefficient	See Standard Resistance Element Data
Limiting Element Voltage (Linear Law)	200 V
Contact Resistance Variation	1 % or 3 Ω
End Resistance (Typical)	0.1 % or 3 Ω
Dielectric Strength (RMS)	1000 V
Insulation Resistance	1 GΩ

MECHANICAL SPECIFICATIONS

Mechanical Travel	270° ± 10°
Operating Torque (max. Ncm)	1.5
End Stop Torque (max. Ncm)	3.5
Unit Weight (max. g)	0.15

ENVIRONMENTAL SPECIFICATIONS

Temperature Range	- 55 °C to + 125 °C
Climatic Category	55/125/56
Sealing	sealed container

POWER RATING CHART**PERFORMANCE**

TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS	
		$\frac{\Delta R}{RT}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
Load Life	1000 hours at rated power 90°/30° - ambient temperature + 70 °C	± 2 % Contact resistance variation: $\Delta R < 1 \% R_n$	± 3 %
Climatic Sequence	Phase A dry heat 125 °C Phase B damp heat Phase C cold - 55 °C Phase D damp heat 5 cycles	± 2 %	± 3 %
Long Term Damp Heat	Temperature 40 °C - RH 93 % 56 days	± 2 % Dielectric strength: 1000 V RMS Insulation resistance: > 10 ⁴ MΩ	± 3 %
Thermal Shock	55 °C to + 125 °C - 5 cycles	± 1 %	$\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 2 \%$
Rotational Life (Electrical and Mechanical)	100 cycles - rated power	± (3 % + 5 Ω)	
Shock	50 g - 11 ms 3 successive shocks in 3 directions	± 1 %	$\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 1 \%$
Vibration	10 - 55 Hz 0.75 mm or 10 g - 6 hours	± 1 %	$\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 1 \%$

STANDARD RESISTANCE ELEMENT DATA

STANDARD RESISTANCE VALUES	LINEAR LAW			TYPICAL TCR - 55 °C + 125 °C
	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH ELEMENT	
Ω	W	V	mA	ppm/°C
10	0.25	1.58	158	± 100
20	↓	2.24	112	
50		3.54	71	
100		5.00	50	
200		7.07	35	
500		11.2	22	
1K		15.8	16	
2K		22.4	11	
5K		35.4	7	
10K		50.0	5	
20K		70.7	3.5	
50K		112	2.2	
100K	0.25	158	1.6	
200K	0.20	200	1.0	
500K	0.08	200	0.4	
1M	0.04	200	0.2	

MARKING

VISHAY trademark, ohmic value, manufacturing date.

The ohmic value is indicated by a 3 figure code, the first two are significant figures, the third one is the multiplier.

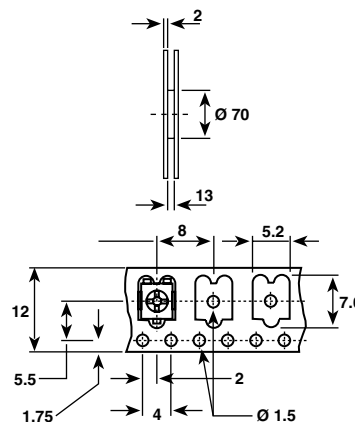
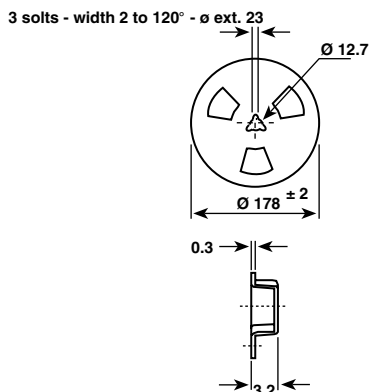
Example: 100 = 10 Ω
 101 = 100 Ω
 102 = 1000 Ω
 503 = 50 000 Ω

SOLDERING RECOMMENDATIONS

see Application notes

PACKAGING

On tape and reel of 500 pieces, code TR and 2000 pieces, code TR1



Cover tape panel strength specifications EIA 481 A and CEI 60286-3.

ORDERING INFORMATION

TS53
SERIES

YL
STYLE

500 K Ω
OHMIC VALUE

$\pm 20\%$
TOLERANCE

TR500
PACKAGING

e3
LEAD FINISH

TR: Tape and reel 500 pcs
on request: TR1: Tape and reel 2000 pcs

e3: pure Sn

SAP PART NUMBERING GUIDELINES

T	S	5	3	Y	L	5	0	4	M	R	1	0			
MODEL				STYLE		OHMIC VALUE			TOL	PACKAGING CODE			SPECIAL (IF APPLICABLE)		

See the end of this data book for conversion tables



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